

DRAG REDUCTION USING MALEATED FATTY ACIDS

Abstract of the Disclosure

Non-polymeric drag reducing agents in the form of maleated fatty acids and
5 the esters thereof and the organic, inorganic or amine salts thereof are described
herein. These additives are useful to reduce drag in hydrocarbon fluids and multi-
phase fluids of hydrocarbon(s) and water. No injection probes or other special
equipment is expected to be required to introduce the drag reducing agent into the
liquid stream, nor is grinding (cryogenic or otherwise) of the additive necessary to
10 form a suitable drag reducing agent. The drag reducing additives of the invention
are not subject to shear degradation and do not cause undesirable changes in the
emulsion or fluid quality of the fluid being treated, or undesirable foaming.